CLAIMS

1. An antireflection film comprising silica particles and at least one binder compound, wherein said silica particles are bound together through said at least one binder compound,

said antireflection film having the following characteristics (a) to (c):

(a) a silica particle content of 30 % by weight or more, based on the weight of the antireflection film,

(b) an arithmetic mean surface roughness (Ra) of not more than 2 nm, and

(c) a silicon atom content of 10 atom % or more, as measured by X-ray photoelectron spectroscopy (XPS) with respect to the surface of the antireflection film.

2. The antireflection film according to claim 1, wherein said at least one binder compound is a polymer having functional groups, and wherein said silica particles are covalently bonded to the functional groups of said polymer.

3. The antireflection film according to claim 2, wherein the molar ratio of the functional groups of said polymer to the silicon atoms present in said sil-

ica particles is from 0.01 to 5.

4. The antireflection film according to any one of claims 1 to 3, wherein said silica particles comprise at least one stringy silica particle selected from the group consisting of a moniliform silica string and a fibrous silica particle.

5. The antireflection film according to claim 4, wherein said at least one stringy silica particle is present in an amount of 50 % by weight or less, based on the weight of the antireflection film.

6. The antireflection film according to any one of claims 1 to 5, which is porous and has a porosity of from 3 to 50 % by volume.

7. An antireflection laminate film comprising a high refraction film and, laminated thereon directly or indirectly, the antireflection film of any one of claims 1 to 6, wherein said high refraction film has a refractive index higher than the refractive index of said antireflection film.

8. The antireflection laminate film according to

claim 7, wherein said high refraction film comprises:

particles of at least one metal oxide comprising at least one metal selected from the group consisting of titanium, zirconium, zinc, cerium, tantalum, yttrium, hafnium, aluminum, magnesium, indium, tin, molybdenum, antimony and gallium, and

at least one binder compound,

wherein said particles of at least one metal oxide are bound together through said at least one binder compound.

9. An optical part comprising an optical substrate and, laminated thereon, the antireflection film of any one of claims 1 to 6.

10. The optical part according to claim 9, wherein said optical substrate is a transparent resin substrate.

11. The optical part according to claim 9 or 10, which has a minimum reflectance of not more than 2 % within the visible light range.

12. The optical part according to any one of claims 9 to 11, which has a pencil hardness of 2H or more.

13. The optical part according to any one of claims 9 to 12, which is obtained by a method comprising:

(1) forming the antireflection film of any one of claims 1 to 6 on a provisional substrate having releasability with respect to said antireflection film, to thereby obtain a laminate (i);

(2) laminating an optical substrate on the antireflection film of said laminate (i) to obtain a laminate (ii); and

(3) delaminating the provisional substrate from said laminate (ii) to obtain an optical part.

14. An optical part comprising an optical substrate and, laminated thereon, the antireflection laminate film of claim 7 or 8.

15. The optical part according to claim 14, wherein said optical substrate is a transparent resin substrate.

16. The optical part according to claim 14 or 15, which has a minimum reflectance of not more than 2 % within the visible light range.

17. The optical part according to any one of claims 14 to 16, which has a pencil hardness of 2H or more.

18. The optical part according to any one of claims 14 to 17, which is obtained by a method comprising:

(1) forming the antireflection film of any one of claims 1 to 6 on a provisional substrate having releasability with respect to said antireflection film, to thereby obtain a laminate (I);

(2) laminating a high refraction film on the antireflection film of said laminate (I) to obtain a laminate (II);

(3) laminating an optical substrate on the high refraction film of said laminate (II) to obtain a laminate (III); and

(4) delaminating the provisional substrate from said laminate (III) to obtain an optical part.